

SECTION 07 9200

JOINT SEALANTS

LANL MASTER SPECIFICATION

When editing to suit project, author shall add job-specific requirements and delete only those portions that in no way apply to the activity (e.g., a component that does not apply). To seek a variance from applicable requirements, contact the ESM Architectural POC.

When assembling a specification package, include applicable specifications from all Divisions, especially Division 1, General Requirements.

Delete information within "stars" during editing.

Specification developed for ML-3 projects. For ML-1 / ML-2, additional requirements and QA reviews are required.

PART 1 GENERAL

This section includes sealing the enclosure components of a structure except those that form an integral part of a system. This section should be referenced in other sections, such as windows, masonry, and like items, to reduce repetitive specifying of requirements in other sections.

1.1 SUMMARY

A. SECTION INCLUDES

1. Clean and prepare joint surfaces.
2. Sealant and backing materials.

1.2 SUBMITTALS

- A. Submit the following in accordance with Section 01 3300, Submittals:
- B. Catalog Data: Manufacturer's data sheets on each product to be used, including, preparation instructions and recommendations, storage and handling requirements and recommendations, as well as installation methods. Additional information to include MSDS, shelf life and temperature range of storage and application.
- C. LEED Submittal: Credit EQ 4.1 – Manufacturers' product data for interior sealants including printed statement of VOC content.

- D. Samples: Sealant colors for each type of sealant used.
- E. Warranty: As specified herein.

1.3 QUALITY ASSURANCE

- A. Installer qualifications: Trained, experienced, and approved or licensed by manufacturer for installation of sealant to be applied.
- B. Source limitations: Obtain each type of joint sealant through one source from a single manufacturer.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with Section 01 6000 Product Requirements.
- B. Store products in manufacturer's unopened packaging, with labels intact, until ready for installation.
- C. Store products off ground; if stored on roof, do not exceed structural capacity of deck.
- D. Store materials at minimum of 68 degrees F for at least 24 hours prior to installation, regardless of temperature at location.
- E. Do not allow materials to freeze prior to application.

1.5 WARRANTY

A requirement for an extended warranty should apply only to sealants that, because of the nature of their application location, are susceptible to improper installation or deterioration. Include only if longer than for one year.

- A. Duration: Provide [] year warranty.
- B. Coverage: Replace sealants that fail because of loss of cohesion or adhesion onto surfaces applied or that do not cure. If the sealant can be detached from a surface by rubbing the surface contact point with a finger, than the surface adhesion is inadequate.

PART 2 PRODUCTS

2.1 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Comply with Section 01 2500, Substitution Procedures.

2.2 SEALANT MATERIALS

- A. General: VOC Content of Interior Sealants – Provide interior sealants and sealant primers that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

1. Sealants: 250 g/L
2. Sealant Primers for Nonporous Substrates: 250 g/L
3. Sealant Primers for Porous Substrates: 775 g/L

Basic caulk (use for metal to glass or other minimal expansive material sealant situations).

- B. Sealant: Polysulphide base, single component, chemical curing; capable of being continuously immersed in water, withstand movement up to 20 percent of joint width and being satisfactorily applied throughout a temperature range to 40 - 80 degrees F shore A hardness of 15 minimum and 50 maximum; nonstaining and nonbleeding; color [].
- C. Sealant: Polysulphide base, two component, chemical curing; [self-leveling type for application in horizontal joints] [nonsagging type for application in vertical joint]; uniform, homogeneous, and free from lumps, skins, and coarse particles when mixed; capable of being continuously immersed in water, withstanding movement up to 25 percent of joint width and being satisfactorily applied throughout a temperature range of 40 - 80 degrees F; shore A hardness of 15 minimum and 50 maximum; nonstaining and nonbleeding; color [].

Silicone base, single-component, solvent-curing sealant {use for metal-to-metal or other material sealant situations}.

- D. Sealant: Silicone base, single component, solvent curing; capable of withstanding movement of up to 25 percent of joint width and being satisfactorily applied throughout a temperature range of 40 - 80 degrees F; shore A hardness of 50 maximum; nonstaining; color [].

Silicone base, single-component, chemical-curing sealant {use for metal to metal or other high expansion sealant situations (will not hold up under LANL UV conditions longer than 3 years)}.

- E. Sealant: Silicone base, single component, chemical curing; capable of withstanding movement of up to 50 percent of joint width and being satisfactorily applied throughout a temperature range of 40 - 80 degrees F; shore A hardness of 50 maximum; nonstaining; color [].

Acrylic base, single-component, solvent-curing sealant {use for general paint applications or other minimal expansive sealant situations}.

- F. Sealant: Acrylic base, single component, solvent curing; capable of being continuously immersed in water, withstanding movement of up to 7.5 percent of joint width and being satisfactorily applied throughout a temperature range of 40 - 80 degrees F; shore A hardness of 55 maximum; nonstaining; nonbleeding; nonsagging; color [].

Polyurethane base, multi-component, chemical-curing sealant {use for high expansion areas, especially good for all roofing caulk applications at membrane to structure interfaces}.

- G. Sealant: Polyurethane base, multi-component, chemical curing; [self-leveling type for application in horizontal joints] [nonsagging type for application in vertical joints]; capable of being continuously immersed in water, withstanding movement of up to 25 percent of joint width and being satisfactorily applied throughout a temperature range of 40 - 80 degrees F; uniform, homogeneous, and free from lumps, skins, and coarse particles when mixed; shore A hardness of 15 minimum and 50 maximum; nonstaining; nonbleeding; color [].

Polyurethane base, single-component, chemical-curing sealant {use for high expansion areas, especially good for all roofing caulk applications at membrane to structure interfaces}.

- H. Sealant: Polyurethane base, single component, chemical curing; [self-leveling type for application in horizontal joints] [nonsagging type for application in vertical joints]; capable of being continuously immersed in water, withstanding movement of up to 25 percent of joint width and being satisfactorily applied throughout a temperature range of 40 - 80 degrees F; shore A hardness of 15 minimum and 50 maximum; nonstaining; nonbleeding; color [].

Acrylic-emulsion base, single-component sealant {use for general paint applications, building expansion joints or other minimal expansive sealant situations}

- I. Sealant: Acrylic emulsion base, single component, capable of withstanding movement of up to 7.5 percent of joint width and being satisfactorily applied throughout a temperature range of 40 - 80 degrees F; shore A hardness of 60 maximum; nonstaining; nonbleeding; nonsagging; color [].

- J. Use either of the following two paragraphs for a concrete sealant.

- 1. Sealant: Hot poured [synthetic rubber] [polymer-based asphalt], in accordance with ASTM D1190 or equal.

**** [OR] ****

- 2. Sealant: Cold-applied, [two-part liquid neoprene], or equal.

2.3 ACCESSORIES

- A. Primer: Nonstaining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Noncorrosive and nonstaining type, recommended by sealant manufacturer; compatible with joint-forming materials.
- C. Joint Filler: ASTM C 1330; round, Type as recommended by sealant manufacturer; oversized 30 to 50 percent; .
- D. Bond Breaker: Pressure-sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

Edit Part 3 to provide only the specific information needed for the project.

3.1 EXAMINATION

- A. Prior to installation, notify LANL Construction Inspector that joint dimensions and physical and environmental conditions are suitable for application of joint sealers.

- B. By beginning the Work of this section, Contractor warrants it has examined and verified that existing conditions are in accordance with provisions of 3.1.A.

3.2 PREPARATION

- A. Clean, prepare, and size joints in accordance with manufacturer's instructions. Remove any loose materials and other foreign matter that might impair adhesion of sealant.
- B. Verify that joint-shaping materials and release tapes are compatible with sealant.
- C. Examine joint dimensions and size materials to achieve required width/depth ratios.
- D. To allow sealants to perform properly, use joint filler to achieve required joint depths.
- E. Use bond breaker where required.

3.3 INSTALLATION

- A. Perform Work per ASTM [C1194 for solvent-release] [and] [C1193 for latex-base] sealants.
- B. Install sealant per manufacturer's instructions.
- C. Apply sealant within recommended temperature ranges. Consult manufacturer when sealant cannot be applied within recommended temperature ranges.
- D. Tool Joints: [Concave] [Channel shaped] [As indicated on Drawings].
- E. Joints: Free of air pockets, foreign embedded matter, ridges, and sags.
- F. Follow manufacturer's recommended cure time before painting or overcoating.

END OF SECTION

Do not delete the following reference information:

FOR LANL USE ONLY

This project specification is based on LANL Master Specification 07 9200 Rev 1, dated May 23, 2006.